

Davis-Bahcall Scholars Program

Sponsored by Sanford Underground Research Facility, Black Hills State University,
and South Dakota Space Grant Consortium

Application Deadline: January 15, 2016

Do you find the concepts of dark matter and energy fascinating? Do you have a passion for science and a desire to pursue a career in Science, Technology, Engineering, or Math? Are you looking to jumpstart a future research career? Will you be a university freshman or sophomore in the Fall of 2016 – in South Dakota or have a home address in South Dakota? Then you could be a 2016 Davis-Bahcall Scholar!

Fifty years ago, Professors Ray Davis and John Bahcall proposed an experiment to confirm the nuclear processes taking place at the core of the sun by measuring a tiny particle called a neutrino in a large tank of dry cleaning fluid a mile underground. This experiment – which took place at the Homestake Gold Mine in Lead, SD – changed our understanding of particle physics and led to a Nobel Prize in physics for chemist Ray Davis. Today underground laboratories across the world are continuing the work started by these two renowned scientists.

Up to 10 students will be chosen to participate in this all-expense paid summer-study program. Two or three of the students enrolled at South Dakota universities will be designated South Dakota Space Grant Consortium Davis-Bahcall Scholars.

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Program Summary

Davis-Bahcall Scholars will have the chance to spend four to five weeks of their summer exploring the world of modern scientific research at some of the nation's leading laboratories and universities. They will spend two weeks at the Sanford Underground Research Facility and travel to other research laboratories in the US and in Italy.

Coursework will cover physics plus a variety of other science and engineering topics. Participants will have the opportunity to interact with and learn from distinguished professors from all over the world. College credit will be offered.

Program Dates: Four to five weeks between mid-June and early August. Starting and ending dates will be finalized prior to interviews.

Eligibility Requirements

Candidates must:

- Be age 18 or older at time of travel
- Be a high school senior or college freshmen at time of application
- Attend a South Dakota public, private or home school or postsecondary institution or have graduated from a South Dakota high school

- Have a demonstrated interest in science with the intent of pursuing a career in a math, science, engineering or technology field
- Students may only participate in the scholarship program once

Optional Internship

Those selected as a Davis-Bahcall Scholar will have the opportunity to apply for a five-week paid summer internship near your home beginning in mid-May and running through August. All internships offered through the program grant the student a leave of absence to participate in the Davis-Bahcall summer study program. Internships may be offered by private business, state government, universities or national laboratories. An internship is not required or guaranteed as part of the Davis-Bahcall program.

Application

To apply for the Davis-Bahcall Program, candidates must submit by January 15, 2016:

- Program application form
- Official high school and college transcripts, including standardized test scores when possible
- 500- to 700-word essay that conveys your interest, qualifications, how you would benefit from the program, and how you would contribute to the program
- [Letter of reference from a current or recent science teacher](#)
- Resume detailing academic achievement and extra-curricular activities

Finalists will participate in an on-line interview.

- Interviews will take place in February by way of internet video
- The interview panel will include two to five people
- Davis-Bahcall Scholars will be chosen by mid-March

Submit application materials to:

Dr. June Apaza
Sanford Underground Research Facility
630 E. Summit Street
Lead, SD 57754

Applications may also be submitted electronically to june.apaza@bhsu.edu

Questions may be directed to:

Dr. June Apaza, Director of Sanford Lab Education & Outreach, june.apaza@bhsu.edu
Dr. Brianna Mount, Assistant Professor of Physics Research at BHSU and Davis-Bahcall Program
Coordinator, brianna.mount@bhsu.edu

Program updates will be posted here <http://doe.sd.gov/secretary/DAVIS-BAHCALL.aspx>

Davis-Bahcall Scholars Program

Student Application Cover Sheet

Name: _____
Last First Middle

Email Address: _____

Mailing Address: _____

City, State, Zip: _____

Home Telephone: _____ **Cell:** _____

Birth Date: _____ **Gender:** __ Male __ Female

Parents' or Legal

Guardians' Full Name: 1.) _____

2.) _____

School Name: _____

School

Address: _____

City, State, Zip: _____

School Telephone: _____

Application Checklist:

- Student Application Cover Sheet (this page)
- A 500-700 word essay that conveys your interest, qualifications, how you would benefit from the program, and how you would contribute to the program
- A resume' detailing your academic and extracurricular activities
- Official high school (and college, if applicable) transcript(s), including standardized test scores when possible
- A letter of reference from a current science instructor (please note directions for instructor)

Applicant Certification:

I certify by signature below that to the best of my knowledge and belief, all of the information on and attached to this application is true, correct, complete, and made in good faith.

Applicant Signature: _____ **Date:** _____

Davis-Bahcall Scholars Program

Letter of Recommendation

Name of Instructor: _____

Directions for Instructor: The student who has given you this form is applying to participate in the Davis-Bahcall Scholars Program which allows students to study science at the Sanford Underground Research Facility in Lead, SD, as well as across the U.S. and in Italy. Please complete the table below and write a brief letter about this student. When you are finished, please place this form and the letter in an envelope, seal it, and write your name across the sealed flap. Please return the sealed envelope to the student as soon as possible.

Student Name: _____

Course(s) taken

with this instructor: _____ **Year(s):** _____

Characteristic	Superior	Average	Below Average	No Basis for Judgement
Curiosity				
Desire to Learn				
Leadership Skills				
Interpersonal Skills				
Motivation				
Responsibility				
Analytical problem solving skills				
Ability to handle stressful situations				
Ability to adapt to new situations				
How do you rate this student as a scholar?				

Instructor's Signature: _____ **Date:** _____

Please also include a brief letter of recommendation that provides information you feel would be helpful in assessing the student's selection for the Davis-Bahcall Scholarship.